

A Comprehensive Study of Avifaunal Diversity in Jhargram District

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Abstract-- Jhargram district, formerly known as Jungle mahal is a newly formed district, separated from Paschim Medinipur in April, 2017. The biodiversity of Jhargram is very rich, especially on avifaunal and lepidopteran diversity due to its well vegetation and environmental health. The following paper represents the survey report on birds for one and half years, checklist of bird species, study area and study protocol, devices used and some interesting photographs. The exhaustive field study showed 128 species in 108 genera from Jhargram outskirts. Some species are local migrant, while some are long distant migrant, occasional dweller, and maximum are resident.

Key words - Avifauna, jungle mahal, biodiversity, migrant, environmental health.

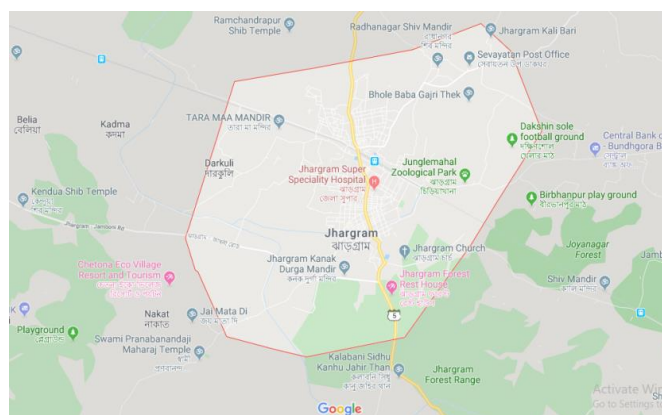
I. INTRODUCTION

Birds has been described as a Feathered Biped. It is most studied animals due to its behavioural and morphological beauty and interest. Avifaunal diversity study is more expensive and exhaustive but quite interesting. It takes long duration; minimally one year or more, to understand the various aspects and daintiness of this recreative creature. We study the forest area & consequently less popular region like Jhargram outskirts, because where many tribal people live and their livelihood depends on this mother nature. We at first make a team, choose 6 visiting site and divides our labour for field work and data collection, then spot identification was done if possible, neither precise photograph was matched later by the help various guide book and birds specialists. After one and half year of survey we confirmed 128 species of birds belonging to 108 genera of 57 Families & 20 Orders. But day by day avian diversity was decrease due to various anthropogenic activities, such as urbanisation, deforestation and habitat destruction. They have greater roles to maintain ecological health. Some birds like Falcon, Shikra and Kite have a scavenging nature, some are insectivores in nature like Green Bee-eater, Black Drongo etc, and few like Indian Paradise Flycatcher, Indian Roller, Munia etc have amused beauty. Further study needed for well understood the migratory behaviour and nesting patterns of some birds, and also their roles to regulate environmental health. Unfortunately, ever bursting human population and human-animal conflicts is a serious threat over avian creatures.

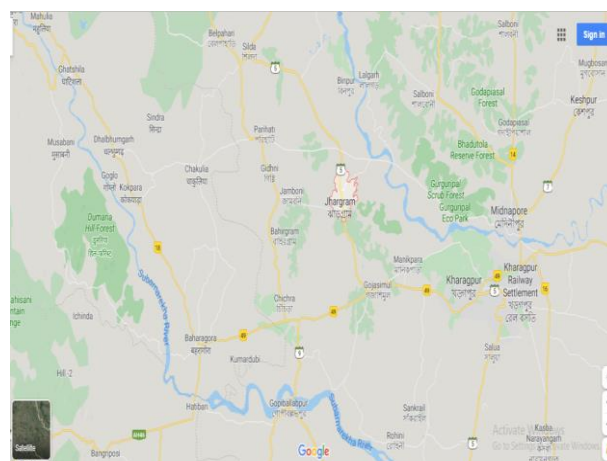
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II. MATERIALS & METHODOLOGY

Study site: At first we selected the 6 study sites and their outskirts for measures Avian diversity, which are **Site-1:** Jhargram town outskirts (22.36° N, 86.73° E), **Site-2:** Belpahari-II (22.63° N, 86.77° E), **Site-3:** Chilkigarh, Jamboni (22.27° N, 86.52° E), **Site-4:** Gopiballavpur (22.22° N, 86.9° E), **Site-5:** Lalgah (22.35° N, 87.03° E), **Site-6:** Tapobon, Nayagram (22.01° N, 87.1° E).



A. GPS satellite map of Jhargram central region.



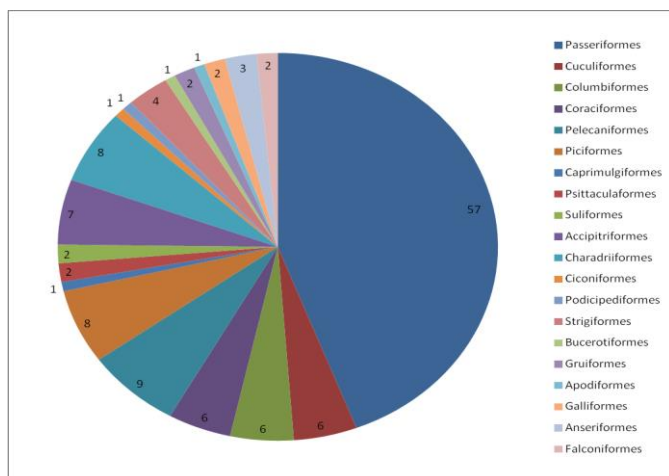
B. Various study site of Jhargram outskirts.

Sampling methods: We follow Systematic Bird Surveys method with regular basis on the above mentioned 6 fields. Randomly choose some sampling areas (Area search method) within them, which consist of some grasslands, water bodies, shrubs land and woody forest. Observed birds were listed and identified by audio-visual methods. Immediately unidentified bird's sound was recorded and photographs were collected for

analysis from bird's specialist. The subspecies level is not demonstrated here due to lack of more precise instruments and time.

Instrument used: Nikon ACULON A211-10-22 × 50 8252 Binocular is used for clear observation from long range, and Canon EOS 3000D 24.1 Digital SLR Camera with EF S18-55 is II Lens and Canon EOS 80D is used for proper photography. Garmin GPS machine was used to track the forest region and Tascam DR-05 stereo recorder was used to identify birds by auditory means.

Field guide used: The Book of INDIAN BIRDS, Thirteenth Edition by Salim Ali & Birds of the Indian Subcontinent, second edition by R. Grimmett, C. Inskipp and T. Inskipp were used for field guide.



Graph: Showing the proportion of number of species found in different orders

III. RESULT AND DISCUSSION

Jhargram is a newly formed district having mass biodiversity and well environmental health. There are huge areas for ecological studies, especially in a good living laboratory like Jhargram outskirts. Now a day the taxonomical work is less prior and negligible areas of research. The biodiversity study, especially avian diversity is a quit interesting but expensive and time consumable. Several use this environment as a beautiful recreational site and good for wild life photography. But this paper represents the avian diversity of Jhargram for first time with interesting photograph, which is helpful for further ecological worker and environmentalist. A well bird's diversity also indicates the good health of nature, vegetation type and density of forest. Some beautiful migratory birds are arrived during pre-winter season to avoid extreme climate, build their nest and breed. Due to less funding and short of time the statistical analysis of birds survey and sub-species level studies was not provided here, further survey and proper equipments will be needed. Hope there is chance for more new reports of bird species from that region.

IV. ACKNOWLEDGEMENT

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RESULTS:

| Order | Family | Sl. No. | Common Name | Scientific Name |
|---------------|----------------|---------|-------------------------------|--------------------------------|
| Passeriformes | Passeridae | 1 | House Sparrow | <i>Passer domesticus</i> |
| | Corvidae | 2 | House Crow | <i>Corvus splendens</i> |
| | | 3 | Common Raven | <i>Corvus corax</i> |
| | | 4 | Rufous Treepie | <i>Dendrocitta vagabunda</i> |
| | Pycnonotidae | 5 | Red-vented Bulbul | <i>Pycnonotus cafer</i> |
| | | 6 | Red-whiskered Bulbul | <i>Pycnonotus jocosus</i> |
| | | 7 | Ashy Bulbul | <i>Hemixos flava</i> |
| | | 8 | White-browed Bulbul | <i>Pycnonotus luteolus</i> |
| | Oriolidae | 9 | Black-naped Oriole | <i>Oriolus chinensis</i> |
| | | 10 | Eurasian Golden Oriole | <i>Oriolus oriolus</i> |
| | Motacillidae | 11 | Paddyfield pipit | <i>Anthus rufulus</i> |
| | | 12 | Pied or White Wagtail | <i>Motacilla alba</i> |
| | Alaudidae | 13 | Bengal Bush Lark | <i>Mirafra assamica</i> |
| | Ploceidae | 14 | Baya Weaver | <i>Ploceus philippinus</i> |
| | Muscicapidae | 15 | Oriental Magpie Robin | <i>Copsychus saularis</i> |
| | | 16 | Indian Robin | <i>Copsychus fulicatus</i> |
| | | 17 | Siberian Rubythroat | <i>Calliope calliope</i> |
| | | 18 | Blue Rock Thrush | <i>Monticola solitarius</i> |
| | | 19 | White-rumped Shyama | <i>Copsychus malabaricus</i> |
| | | 20 | Verditer Flycatcher | <i>Eumyias thalassinus</i> |
| | | 21 | Taiga Flycatcher | <i>Ficedula albicilla</i> |
| | | 22 | Blue throated Blue Flycatcher | <i>Cyornis rubeculoides</i> |
| | Estrildidae | 23 | Scaly Breasted Munia | <i>Lonchura punctulata</i> |
| | | 24 | Tricoloured Munia | <i>Lonchura Malacca</i> |
| | | 25 | Indian Silverbill | <i>Euodice malabarica</i> |
| | Artamidae | 26 | Ashy Woodswallows | <i>Artamus fuscus</i> |
| | Sturnidae | 27 | Chestnut Tailed Starling | <i>Sturnia malabarica</i> |
| | | 28 | Common Myna | <i>Acridotheres tristis</i> |
| | | 29 | Pied Myna | <i>Gracupica contra</i> |
| | | 30 | Common Hill Myna | <i>Gracula religiosa</i> |
| | Dicruridae | 31 | Black Drongo | <i>Dicrurus macrocercus</i> |
| | Dicaeidae | 32 | Tickell's Flower-pecker | <i>Dicaeum erythrorhynchos</i> |
| | Acrocephalidae | 33 | Booted Warbler | <i>Iduna caligata</i> |
| | | 34 | Clamorous reed Warbler | <i>Acrocephalus stentoreus</i> |

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|---------------|----------------|----|---|---------------------------------------|
| Cuculiformes | Phylloscopidae | 35 | Green-Crowned Warbler | <i>Phylloscopus burkii</i> |
| | | 36 | Siberian Chifchaff or Leaf Warbler | <i>Phylloscopus collybita tristis</i> |
| | | 37 | Dusky Warbler | <i>Phylloscopus fuscatus</i> |
| | Nectariniidae | 38 | Purple Sunbird | <i>Cinnyris asiaticus</i> |
| | | 39 | Crimson Sunbird | <i>Aethopyga siparaja</i> |
| | Cisticolidae | 40 | Common Tailorbird | <i>Orthotomus sutorius</i> |
| | | 41 | Plain Prinia | <i>Prinia inornata</i> |
| | Zosteropidae | 42 | Oriental White-eye | <i>Zosterops palpebrosus</i> |
| | Leothrichidae | 43 | Common Babbler | <i>Argya caudate</i> |
| | | 44 | Jungle Babbler | <i>Argya striata</i> |
| | Sylviidae | 45 | Yellow-eyed Babbler | <i>Chrysomma sinense</i> |
| | Timaliidae | 46 | Tawny-bellied Babbler or Rufous-bellied babbler | <i>Dumetia hyperythra</i> |
| | Monarchidae | 47 | Asian Paradise Flycatcher | <i>Terpsiphone paradisi</i> |
| | | 48 | Black-napped Monarch | <i>Hypothymis azurea</i> |
| | Laniidae | 49 | Brown Shrike | <i>Lanius cristatus</i> |
| | Aegithinidae | 50 | Common Iora | <i>Aegithina tiphia</i> |
| | Campephagidae | 51 | Black-headed Cuckooshrike | <i>Lalage melanoptera</i> |
| | | 52 | Small Minivet | <i>Pericrocotus cinnamomeus</i> |
| | Chloropseidae | 53 | Jerdon's Leafbird | <i>Chloropsis jerdoni</i> |
| | Emberizidae | 54 | White-capped Bunting | <i>Emberiza stewarti</i> |
| | Hirundinidae | 55 | Barn Swallow | <i>Hirundo rustica</i> |
| | Pittidae | 56 | Indian Pitta | <i>Pitta brachyuran</i> |
| | Cuculidae | 57 | Hawk Cuckoo | <i>Hierococcyx varius</i> |
| | | 58 | Asian Koel | <i>Eudynamys scolopaceus</i> |
| | | 59 | Jacobin Cuckoo | <i>Clamator jacobinus</i> |
| | | 60 | Plaintive Cuckoo | <i>Cacomantis merulinus</i> |
| | | 61 | Grey-bellied Cuckoo | <i>Cacomantis passerinus</i> |
| | | 62 | Sirkeer Malkoha | <i>Taccocua leschenaultia</i> |
| Columbiformes | Columbidae | 63 | Yellow-footed Green Pigeon | <i>Treron phoenicoptera</i> |
| | | 64 | Rock Dove | <i>Columba livia</i> |
| | | 65 | Eurasian Collared Dove | <i>Streptopelia decaocto</i> |
| | | 66 | Eurasian Turtle Dove | <i>Streptopelia turtur</i> |
| | | 67 | Laughing Dove | <i>Spilopelia senegalensis</i> |
| | | 68 | Spotted dove | <i>Spilopelia chinensis</i> |

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|------------------|-------------------|-----|------------------------------------|--------------------------------------|
| Coraciiformes | Alcedinidae | 69 | Common Kingfisher | <i>Alcedo atthis</i> |
| | | 70 | White Throated/Breasted Kingfisher | <i>Halcyon smyrnensis</i> |
| | | 71 | Stork Billed Kingfisher | <i>Pelargopsis capensis</i> |
| | | 72 | Pied Kingfisher | <i>Ceryle rudis</i> |
| | Meropidae | 73 | Green Tailed Bee-eater | <i>Merops orientalis</i> |
| | | 74 | Indian Roller | <i>Coracias benghalensis</i> |
| | | 75 | Cattle Egret | <i>Bubulcus ibis</i> |
| | | 76 | Little Egret | <i>Egretta garzetta</i> |
| Pelecaniformes | Ardeidae | 77 | Intermediate Egret | <i>Ardea intermedia</i> |
| | | 78 | Common Egret | <i>Ardea alba</i> |
| | | 79 | Pond Heron | <i>Ardeola</i> sp. |
| | | 80 | Night Heron | <i>Nycticorax</i> sp. |
| | | 81 | Cinnamon Bittern | <i>Ixobrychus cinnamomeus</i> |
| | | 82 | Black Bittern | <i>Ixobrychus flavicollis</i> |
| | | 83 | Red-napped Ibis | <i>Pseudibis papillosa</i> |
| | | 84 | Greater Flameback Woodpecker | <i>Chrysocolaptes guttacristatus</i> |
| Piciformes | Picidae | 85 | Lesser Golden-backed | <i>Dinopium benghalense</i> |
| | | 86 | Indian Pygmy Woodpecker | <i>Yungipicus nanus</i> |
| | | 87 | Eurasian Wryneck | <i>Jynx torquilla</i> |
| | | 88 | Fulvous-breasted Woodpecker | <i>Dendrocopos macei</i> |
| | Megalaaimidae | 89 | White-cheeked Barbet | <i>Psilopogon viridis</i> |
| | | 90 | Blue-throated Barbet | <i>Megalaima asiatica</i> |
| | | 91 | Coppersmith Barbet | <i>Megalaima haemacephala</i> |
| Caprimulgiformes | Caprimulgidae | 92 | Indian Nightjar | <i>Caprimulgus asiaticus</i> |
| Psittaculaformes | Psittaculadae | 93 | Rose-ringed Parakeet | <i>Psittacula krameri</i> |
| | | 94 | Alexandrine Parakeet | <i>Psittacula eupatria</i> |
| Suliformes | Phalacrocoracidae | 95 | Little Cormorant | <i>Microcarbo niger</i> |
| | | 96 | Greater Cormorant | <i>Phalacrocorax carbo</i> |
| Accipitriformes | Accipitridae | 97 | European Honey Buzzard | <i>Pernis apivorus</i> |
| | | 98 | Black-shouldered Kite | <i>Elanus axillaris</i> |
| | | 99 | White-rumped Vulture | <i>Gyps bengalensis</i> |
| | | 100 | Black Kite | <i>Milvus migrans</i> |
| | | 101 | Shikra | <i>Accipiter badius</i> |
| | | 102 | Pied Harrier | <i>Circus melanoleucos</i> |

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|------------------|---------------|-----|-----------------------------------|----------------------------------|
| | | 103 | Crested Serpent Eagle | <i>Spilornis cheela</i> |
| Charadriiformes | Charadriidae | 104 | River Lapwing | <i>Vanellus duvaucelii</i> |
| | | 105 | Yellow-wattled Lapwing | <i>Vanellus malabaricus</i> |
| | | 106 | Red-wattled Lapwing | <i>Vanellus indicus</i> |
| | Jacanidae | 107 | Bronze-winged Jacana | <i>Metopidius indicus</i> |
| | | 108 | Pheasant-tailed Jacana | <i>Hydrophasianus chirurgus</i> |
| | Rostratulidae | 109 | Greater Painted-Snipe | <i>Rostratula benghalensis</i> |
| | Scolopacidae | 110 | Common Snipe | <i>Gallinago gallinago</i> |
| | Burhinidae | 111 | Indian Stone-curlew | <i>Burhinus indicus</i> |
| Ciconiiformes | Ciconidae | 112 | Asian Open-bill Stork | <i>Anastomus oscitans</i> |
| Podicipediformes | Podicepedidae | 113 | Little Grebe | <i>Tachybaptus ruficollis</i> |
| Strigiformes | Strigidae | 114 | Spotted Owlet | <i>Antheus brama indica</i> |
| | | 115 | Brown Fish Owl | <i>Ketupa zeylonensis</i> |
| | | 116 | Indian Scops Owl | <i>Otus bakkamoena</i> |
| | Tytonidae | 117 | Barn Owl | <i>Tyto alba</i> |
| Bucerotiformes | Upapidae | 118 | Eurasian Hoppoe | <i>Upupa epops</i> |
| Gruiformes | Rallidae | 119 | White-breasted Waterhen | <i>Amaurornis phoenicurus</i> |
| | | 120 | Grey-headed Swampphen | <i>Prophyrio poliocephalus</i> |
| Apodiformes | Apodidae | 121 | Asian Palm Swift | <i>Cypsiurus balasiensis</i> |
| Galliformes | Phasianidae | 122 | Grey Francolin or Grey Partridge | <i>Francolinus pondicerianus</i> |
| | | 123 | Black Francolin | <i>Francolinus francolinus</i> |
| Anseriformes | Anatidae | 124 | Cotton Pygmy Goose or Cotton Teal | <i>Nettapus coromandelianus</i> |
| | | 125 | Red-crested Pochard | <i>Netta rufina</i> |
| | | 126 | Gadwall | <i>Mareca strepera</i> |
| Falconiformes | Falconidae | 127 | Peregrine Falcon | <i>Falco peregrines</i> |
| | | 128 | Eurasian Hobby | <i>Falco subbuteo</i> |

CHECKLIST OF BIRDS FOUND AT JHARGRAM DISTRICT



Fig1. Common Kingfisher.

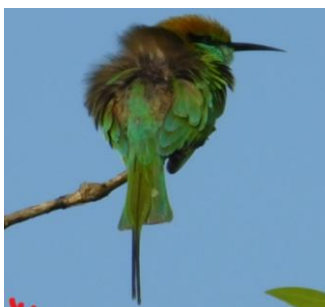


Fig2. Green-tail Bee eater.



Fig3. Indian Pitta.



Fig4. Oriental White eye.



Fig5. Golden Oriole.



Fig6. Asian Paradise Flycatcher.



Fig7. Baya Weaver.



Fig8. Verditer Flycatcher



Fig9. Chestnut tailed Starling.



Fig 10. Indian Bush lark

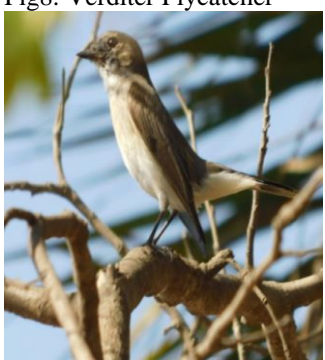


Fig11. Paddy field Pipit



Fig. 12. Shikra



Fig13. Asian Open bill Stork.



Fig14. Greater Flameback.



Fig15. Magpie Robin.

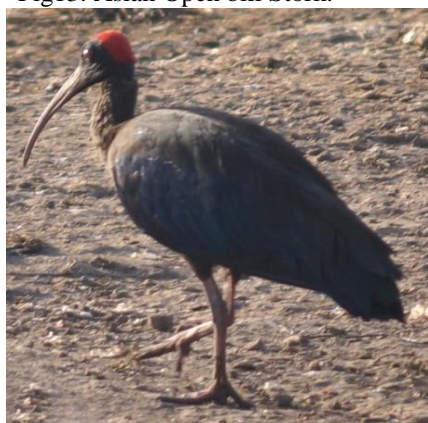


Fig16. Red-napped Ibis.



Fig17. Common Babbler.



Fig18. Indian scops Owl.

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